

**Appendix D.**  
**How to Submit Metadata and Data Files to the**  
**USACE Geospatial Data Clearinghouse Node**  
Spring 2002  
Draft Version 7/13/02

**D-1. Introduction** [FOOTNOTE: Please note that updates to this document will be available at <http://corpsgeo1.usace.army.mil/howto/>.]

**About this document.** Throughout this document the USACE Geospatial Data Clearinghouse Node server is called the Geospatial Server or the Server.

The webmaster of the Server is mentioned throughout the report. The webmaster can be reached via email at [webmaster@corpsgeo1.usace.army.mil](mailto:webmaster@corpsgeo1.usace.army.mil).

The purpose of this document is to describe for USACE employees:

- How to sign up to access to the Geospatial Server,
- File format and filename requirements for submitting files to the Geospatial Server,
- How to submit, delete, or replace geospatial metadata and data files on the USACE Server, and
- How to access and view metadata that is on the USACE Server
- How to edit your organization's *collection metadata* files which USACE Headquarters put on the USACE Clearinghouse Node.

**About Geospatial Metadata.** Geospatial metadata is information about geospatial data (any data that has geographic coordinates). US Federal Executive Order Number 12906 required that all Federal agencies create a metadata file for any geospatial data set or series of data sets created. It is also required that these metadata files be made accessible to the public and that they be made in the accepted standard format. The standard format is designed to contain all needed information for various types of data. The rigidity of the standardized structure allows the files to be read and indexed by computers. The US Federal Geographic Data Committee (FGDC) Content Standard for Digital Geospatial Metadata was the first standard created in the US in 1995. The International Standards Organization (ISO) developed ISO Metadata Standard 19115.3 in 2001. The FGDC is working with the ISO to develop one world-wide standard. As of August 2002, most metadata creation tools in the US still output metadata in Content Standard format. For more information on metadata, metadata creation tools, or the Content Standard, see <http://www.fgdc.gov/metadata/metadata.html> or go to <http://corpsgeo1.usace.army.mil> and follow the link to "Download Metadata Software."

**About the National Geospatial Data Clearinghouse.** The National Geospatial Data Clearinghouse is a system of web sites developed by a cooperative group of U.S. Federal, State, and local government and private agencies. It is designed to enable people to find geospatial data by searching at one web site. Agencies participating in the Clearinghouse

create geospatial metadata repositories on their own local computers or Clearinghouse Nodes. Their repositories conform to Clearinghouse standards. The Clearinghouse central server indexes the metadata files at these remote metadata repositories. Anyone with Internet access can search the indexed metadata files based on variables such as geographic location, time period, and keywords. When a relevant metadata file is found, it will contain specifications about the data such as data quality, points of contact, and where the data can be located. The number of US and international participants in the Clearinghouse has grown to 267 in 2002.

**About the USACE Geospatial Data Clearinghouse Node.** The U.S. Army Corps of Engineers (USACE) participates in the National Geographic Data Clearinghouse. USACE has a web server on which they store geospatial metadata about data belonging to USACE agencies called the USACE Geospatial Data Clearinghouse Node. Data also can be stored there, if desired. The URL of this server is <http://corpsgeo1.usace.army.mil>. The metadata files stored here are indexed by the National Geospatial Data Clearinghouse.

**About the Geospatial Data and Systems Point of Contact.** Every USACE agency should have a designated GD&S POC. The responsibilities of the GD&S POC are defined in USACE Engineering Regulation 1110-1-8156. To find out who the GD&S POC is for your organization, go to the GD&S POC Database at <http://corpsgeo1.usace.army.mil/poc.html> and type in your agency designation. The GD&S POC should be involved in the organization of the metadata creation and submission process as well as over-all geographic data management in an agency. Before submitting metadata to the USACE Server it may be beneficial to find out from the GD&S POC or another knowledgeable person if there is a plan within your agency for file naming conventions, record-keeping of submitted files, or other types of data management.

**D-2. Getting access to the Geospatial Data Server in order to submit geospatial data or metadata files.** (This section is the same for metadata and data submission.) You only need to register once to have access to the Geospatial Clearinghouse Server for metadata and data submission. There are three steps to register.

1. **Have a UPASS User ID and UNIX password.** All USACE employees can get a Corps UPASS user ID and UNIX password. If you do not already have them, you will need to ask your local computer support group how to obtain them.
2. **Sign up to get access to the Geospatial Server.** You need to ask your computer support team's UPASS Administrator to request access within the UPASS system to the *Geospatial and WWW Server*. After the request is submitted, the local UPASS administrator for the Geospatial and WWW Server receives the request and gives you access to the Server. This process should usually not take more than 48 hours.

3. **Send your contact information to the Server Webmaster.** You must submit your name, email address, and USACE organization to the Corpsgeo1 webmaster in order for the submission system to work for you. Send email to [webmaster@corpsgeo1.usace.army.mil](mailto:webmaster@corpsgeo1.usace.army.mil).

### **D-3. Metadata and data requirements.**

**File format requirements.** There are three requirements for the metadata file format:

1. Conformance to the Federal Geographic Data Committee (FGDC) Content Standard for Digital Geospatial Metadata (until the ISO Standard is recognized by the metadata processing program on the Server).
2. Each line in the metadata file must be indented according to the rules required by mp, a metadata parser software program, and
3. The file format must be plain ASCII text file format. The file should not be in HTML or SGML format when it is submitted.

The output of the free USACE metadata creation software tool, CORPSMET (see below) or any metadata creation software that conforms to the Content Standard will conform to these requirements.

There are no requirements for *data* formats on the Server. It is expected that only geographic data, i.e., data with geographic coordinates, will be sent to the Server. Data producers are responsible for the quality of their geospatial metadata.

### **Metadata Creation Tools.**

The metadata generator software package, CORPSMET, developed by a contractor for USACE, creates metadata in the correct format. It outputs the metadata file in the correct hierarchically-indented format. It runs on Windows and NT operating systems. It's free and menu driven. It can be downloaded by going to the Server homepage at <http://corpsgeo1.usace.army.mil> and follow the link to "Download Metadata Software." "Download CORPSMET" is an option on this page. (Sample metadata files and a metadata training manual is also available from that page.) After downloading, the file must be unzipped before being installed. For more information on unzipping or for help installing CORPSMET, ask your information systems group.

There are other metadata creation software packages available. Before using them, you should check to be sure they are outputting the metadata in the correct standard format. Some Geographic Information System software, such as ArcInfo, offers an option for users to create metadata as they create a data set.

### **Filename conventions.**

When you put metadata files on the Server, a program runs that uses the filename extension of each file to determine how it will handle the file. The following naming conventions are required:

Type of File	Required Filename Extension
Original Metadata	.met
File to replace current files on the Server	.rep
File to be deleted	.del
Data file	No required extension

When you ftp the file to the Server you can make the name as long as you want up to 100 characters. All filenames should consist of a continuous string of characters which may include numbers, letters, underscore ( \_ ), hyphen (-), and dot ( . ). Other special characters should be avoided. Spaces in filenames are not allowed. Filenames are case sensitive.

The GD&S POCs and persons submitting metadata are responsible for keeping track of their organizations' metadata filenames. The filename will be needed if the metadata has to be replaced, updated or deleted in the future. The filenames currently in a Command's metadata directory can be seen by using anonymous ftp to view the Command's metadata directory. (See Section D-8 for information how to view the metadata files.)

#### **D-4. Submitting geospatial metadata files to the USACE Geospatial Clearinghouse Node**

To put a metadata file on the Geospatial Server after you have registered to access the Server (see section D-2) follow these steps.

1. Plan your filename. Remember to use the .met extension for metadata file submissions. You can submit any number of files during one ftp session, including metadata and data files.
2. Use the ftp (File Transfer Protocol) software on your computer. There are many brands of ftp software. It would be impossible to describe them all. If you don't know how to use the ftp utility on your computer, you'll have to ask a knowledgeable neighbor or your information management group.
3. Use the following parameters to initiate ftp to your home directory:

Host: geodata.usace.army.mil

Login ID: *yourUPASSid*

Password: *yourUPASSUNIXpassword*

Note that geodata is a different server name than the one the public uses to view the files. This Server is used only to post, maintain, and index metadata and data files. When you have successfully logged on, you will be in your home directory. This is the only place on the Server where you can put files. Use your ftp software to put the files on the Server in your directory.

4. When you are done putting metadata on the Server, close the session and exit from the ftp software.

5. The processing software that moves the files to the correct directory on the Geospatial Server will process new files approximately every 2 hours. Do not go check the directory immediately after submission. If your metadata (or data) submission (or replacement or deletion) is successfully processed you will receive an email message within a few hours saying so. If your file is not successfully processed, you will receive an email message within a few hours stating this and explaining why it was not successfully processed.

#### **D-5. Submitting geospatial data files to the USACE Geospatial Clearinghouse Node**

##### **Data Quality**

The producers of geospatial data are responsible for the quality, integrity and maintenance of the data that they produce.

##### **Data file formats**

Geospatial data in any format will be accepted on the Server. This includes output generated by any CADD or GIS system. Geospatial data includes any data that includes geospatial coordinates. Please be aware of the filename conventions for placing data on the Server as described above.

##### **Data and the referring metadata file**

When a data file is submitted to the Server, a metadata file that refers to that data file absolutely must be submitted to the Server at the same time. (A metadata file may be submitted without a data file, however.)

Section 6 of a metadata file is the "Distribution Information" section. This section contains information about the distribution of and options for obtaining the data to which the metadata refers. It should contain information about one or more data sets to which the metadata refers. Which of the optional data descriptors in this section will be used will depend on where the data is located. There is a section for "Non Digital Data" (6.4.1) as well as for "Digital Data" (6.4.2).

When a data file and the referring metadata file are submitted to the USACE Geospatial Server there must be the following reference to the data in the metadata file:

<http://corpsgeo1.usace.army.mil/filename.ext>

where filename.ext is the name of the data file to which your metadata refers. This reference has to be under the Distribution Information section of the metadata called "Network Resource Name". The script that processes the files takes this text and turns it into a link to the actual data file. (The text <http://corpsgeo1.usace.army.mil> is just dummy text to alert the processing script as to what it needs to do.) When people read the metadata on the Server they will be able to request a download of the corresponding data immediately, if the data is on the corpsgeo1 Server.

If you are submitting data with metadata, your metadata Distribution Information Section options must look like this (notice the hierarchical indentation of the options):

6: Distribution Information:

Standard Order Process:

Digital Form:

Digital Transfer Option:

Online Option:

Computer Contact Info:

Network Address:

Network Resource Name: [http://corps\\_geo1.usace.army.mil/filename.ext](http://corps_geo1.usace.army.mil/filename.ext)

where filename.ext is the filename of the data file to which the metadata file refers.

The data and referring metadata files must be submitted at the same time in order to process them correctly.

If there is no corresponding metadata file with a data file when it arrives at the Server, the data file will be put in storage for two weeks and you will be notified that you need to submit a metadata file with it. If you submit the metadata file within that two-week period, you do not have to resubmit the data file; SP will take the data file from the temporary storage directory and process it normally.

If you want to submit a data file that corresponds to a metadata file already on the Server, you will need to delete the old metadata file from the Server and resubmit it with the new data file. This will enable you to include the required text in the Network Resource Name section of the metadata file and allow SP to process the two files correctly.

One metadata file may refer to multiple data files. If this is the situation the metadata Distribution Information section will have more than one Network Resource Name, for example:

Distribution Information

Standard Order Process

Digital Form

Digital Transfer Option

Online Option

Computer Contact Info

Network Address

Network Resource Name [http://corps\\_geo1.usace.army.mil/fname1.ext](http://corps_geo1.usace.army.mil/fname1.ext)

Network Resource Name [http://corps\\_geo1.usace.army.mil/fname2.ext](http://corps_geo1.usace.army.mil/fname2.ext)

Network Resource Name [http://corps\\_geo1.usace.army.mil/fname3.ext](http://corps_geo1.usace.army.mil/fname3.ext)

where fname1.ext, fname2.ext and fname3.ext are the filenames of the data files that correspond to the metadata file.

To summarize,

- You can submit a metadata file without a data file.
- If you submit a data file you must simultaneously submit a referring metadata file.
- One metadata file can refer to multiple data files.
- Multiple metadata files can refer to one data file

**Submitting the data file.** When you are ready to submit the data file, use the same process described in section D-4, instructions 3 through 5 to ftp the file to the Server. You should do this at the same time that you submit the corresponding metadata file.

## **D-6. Replacing a metadata file on the Server**

To replace or delete a metadata file on the Server you will need to know the exact filename of the file to be replaced or deleted. To find the filename you can use anonymous ftp or use the World Wide Web and go to the URL <ftp://corpsgeo1.usace.army.mil> to go to your organization's metadata directory to look for the filename you need. (See section D-8.)

If you are trying to replace or delete files that originally you did not put on the Server, you will have to contact the webmaster with proof that you are now responsible for these files.

The filename of the replacement file should be in the format

filename(.met).rep

where filename.met is the filename of the file to be replaced. The original filename will end with .met so the replacement file's filename will end with .met.rep. The extension .rep will cause the Server to replace the metadata file currently in your Command's metadata directory having the name filename.met with the file you just put in your home directory.

When you are ready to submit the replacement file, use the same process described in section D-4, instructions 3 through 5 to ftp the file to the Server.

## **D-7. Deleting a metadata file on the Server**

First create a dummy file on your local computer with the same filename as the name of the file you want to delete plus the extension .del. It doesn't matter what is in the dummy file. The filename should be in the format

filename(.met).del

where filename(.met) is the filename of the file to be deleted. The filename of the existing metadata file will end with .met so the dummy file's filename will end with .met.del. The extension .del will cause the Server to delete the metadata file you have named.

When you are ready to submit the replacement file, use the same process described in section D-4, instructions 3 through 5 to ftp the file to the Server.

## **D-8. How to view metadata on the USACE Geospatial Data Clearinghouse Node.**

**Notice to data users:** The data described in the metadata files produced by the US Army Corps of Engineers represent the results of data collection and processing for a specific US Army Corps of Engineers activity and indicates the general existing conditions. As such it is only valid for its intended use, content, time, and accuracy specifications. The user is responsible for the results of any application of the data for other than its intended purpose.

**Using the Web to view metadata files.** Go to the URL <http://corpsgeo1.usace.army.mil>. Click on the button "Locate Metadata." Choose whether you want to view metadata on the USACE Server or on the National Clearinghouse. If you want to view USACE metadata you can choose to go to a map to select an organizational element or to a textual list of the organizations. Select the appropriate button. Select the organization whose metadata you want to view. Click on the link "Detailed Metadata" and then the folder called "metadata." Click on a file that has the filename extension *.html* or *.met*.

**Using ftp to view metadata files.** Use your web browser to ftp to <ftp://corpsgeo1.usace.army.mil>. Keep clicking on the organization whose metadata you want to view as you burrow down into the ftp site until you can choose the "metadata" folder. Once in the metadata folder, click on a file with the filename *.html* or *.met*.

## **D-9. Editing collection metadata on the Server**



**Collection Metadata.** The USACE geospatial data and metadata available on the web include *collection metadata* and *detailed metadata*. A collection metadata file is a single metadata file that describes a number of related data files that are routinely collected by an agency. For example, the data may be hydrographic files which have been collected for 20 years. A detailed metadata file describes a unique data file or a collection of data files that are not routinely collected by an agency.

The HQUSACE has created a series of collection metadata templates for all USACE Commands to edit or delete, as appropriate. Links to these are found under each Command's data pages. The changes to these pages can be made on a paper copy or electronic copy of the file and then sent to the webmaster of Corpsgeo1 to be published. You can make the changes to the electronic file as described below, then send the resulting file to the webmaster as an email attachment.

**Electronic editing of a collection metadata file.** While browsers differ, general instructions for saving an electronic copy of a web page to your local computer are given here. To download the web page to your PC, use your browser to view the collection metadata file web page. Save the file to your PC by using the browser menu options: File/Save as. Choose to save in the format type HTML or text. Note where in your directory structure the file is being saved and its filename. Press enter.

When it's saved, the collection metadata file will have all the HTML tags necessary for viewing it from your Web browser on your local PC. To view the file on your browser while you edit it, use the browser menu options File/Open File in Browser or File/Open/Browse to locate and open the electronic copy of the metadata file you just downloaded.

You can then open the file in your word processor *as a text-only file* or in any text-only editor to make needed changes in the file and view the results from your browser. Please remember to open and save file in "Text Only" format in your word processing software. Any images in these files will not appear as you edit and view them on your local computer. This is normal. When the file is placed back on the Server the images will appear as they should.

If you are using MSWord and it will not allow you to open the file in text-only format you have two options:

- 1) Change the filename extension to .txt while opening the file to edit it. Then save it with the .htm filename extension to view it on your browser.
- 2) Select the MS Word menu options: Tool/Options/General, and check the option "Confirm conversion at Open." When you open the file you can then choose to open it as a text file.

**Editing a paper copy of a collection metadata file.** Print a hardcopy of the page from your web browser while you are viewing it. Edit it and fax the edited version to the corpsgeo1 webmaster at 603-646-4658. Please make your edits clearly. Please contact the webmaster to let him know the fax is coming at [webmaster@corpsgeo1.usace.army.mil](mailto:webmaster@corpsgeo1.usace.army.mil).

## D-10. Frequently Asked Questions.

- What if the data set I have been working on has security restrictions?  
No geospatial data or metadata file that has any secure information should be posted on a public web site including the USACE Geospatial Data Clearinghouse Node. If you are creating a secure geospatial data set you should create a metadata file for that data set and give it to the owner of the data when you give them the data files.
- Am I supposed to make a metadata file for every geospatial data file that I create?  
You should make a metadata file for every unique data file or data set that you create. If you are making a related set of data files, then one metadata file may suffice. [Engineer Manual 1110-1-2909](#) has details on this topic. You can find it on the web at <http://gis.usace.army.mil/policy.htm>.
- May/Must I publish the geospatial data when I publish a metadata file on the USACE Geospatial Data Clearinghouse Node?  
You may publish the geospatial data that is described in the metadata file that you are posting, but it is not required.
- May I publish data and not the corresponding metadata on the USACE Geospatial Data Clearinghouse Node?  
No. It is required that any data on the USACE Geospatial Data Clearinghouse Node has corresponding metadata file.
- How can I view USACE Geospatial Metadata?  
See section D-8 of the document.
- Who should I contact if the Server isn't posting the metadata files or data files that I send?  
Corpsgeo1 Webmaster: [webmaster@corpsgeo1.usace.army.mil](mailto:webmaster@corpsgeo1.usace.army.mil)
- Who can I contact for more information about the USACE metadata submission?  
Contact help in this order:
  - Your organization's GD&S POC. Find out who is your POC at the GD&S POC Database web page at <http://corpsgeo1.usace.army.mil/poc.html>
  - Corpsgeo1 Webmaster: [webmaster@corpsgeo1.usace.army.mil](mailto:webmaster@corpsgeo1.usace.army.mil)
  - HQUSACE Geospatial Data and Systems Manager – [Nancy.J.Blyler@hq02.usace.army.mil](mailto:Nancy.J.Blyler@hq02.usace.army.mil)
  - You can also keep up with USACE GIS news and information by joining the USACE GD&S POC Email List. Find out how to sign up for the email list at <http://gis.usace.army.mil/contacts.htm>

- Where can I find more information about USACE geospatial data and geospatial data systems?

There is a web site for USACE employees at <http://gis.usace.army.mil/> that has more information on this subject.